

### **THAT WHICH IS CLAIMED IS:**

1. A bone anchoring device comprising:  
a bone anchoring element provided with a head for receiving a threaded shaft upon which a clamping means is screwed;  
a spherical articulation being provided between the bone anchoring element and the threaded shaft in order to allow multiple orientation of the threaded shaft; and  
rotational linkage means between the bone anchoring element and the threaded shaft for maintaining multiple orientation for the threaded shaft relatively to the bone anchoring element.
2. The bone anchoring device according to claim 1, wherein the rotation linkage means are provided outside the spherical articulation.
3. The bone anchoring device according to claim 1, wherein the rotational linkage means includes a female geometrical form cooperating with a complementary male geometrical form, delimiting between them clearance in order to allow multiple orientation between the threaded shaft and the bone anchoring element.
4. The bone anchoring device according to claim 3, wherein one of the geometrical forms is provided on the head of the bone anchoring element, and wherein the other geometrical form is provided on the end of the threaded shaft.
5. The bone anchoring device according to claim 3, wherein one of the geometrical shapes is provided on an end face of the bone anchoring element, extending within an open housing provided in the head and receiving the end of the threaded shaft made as a ball-and-socket joint in order to form the spherical articulation, said ball-and-socket joint being provided with the other geometrical form on its transverse face.

6. The bone anchoring device according to claim 5, wherein the transverse face of the ball-and-socket joint and the end face of the bone anchoring element extend a distance from one another in order to allow multiple orientation of the threaded shaft.
7. The bone anchoring device according to claim 6, wherein at least one of the transverse face of the ball-and-socket joint and the end face of the bone anchoring element has a convex shape.
8. The bone anchoring device according to claim 5, wherein the male geometrical form is made on the end of the bone anchoring element, and wherein the female geometrical form is provided on the ball-and-socket joint.
9. The bone anchoring device according to claim 1, wherein the receiving head forms a grip nut for a screwing tool.